

WHAT IS CLAIMED IS:

1. A method of treatment for one or more substrates in an individual, comprising:

5 positioning a means of securing said substrate(s) proximally thereto, wherein said securing means is a susceptor or comprises a susceptor;

applying energy to said substrate(s) or to said susceptor or to a combination thereof to generate heat therein; and

fixing said substrate(s) via said heat thereby effecting treatment.

10 2. The method of claim 1, wherein said substrate(s) is a tissue, an implant or a bandage.

15 3. The method of claim 1, wherein said susceptor is a metal, a liposome encapsulating a metal, a dye, an ion, a mixture of ions, or an ultrasound contrast agent.

4. The method of claim 1, wherein said susceptor comprises matter with non-zero electrical conductivity.

20 5. The method of claim 1, wherein said susceptor is diamagnetic, paramagnetic, or ferromagnetic.

25 6. The method of claim 1, wherein said securing means is a surgical fastener, a laminate or a surgical fitting.

7. The method of claim 6, wherein said surgical fastener is a staple, a clip or a suture.

30 8. The method of claim 1, wherein said securing means further comprises an adherend.

9. The method of claim 8, wherein said adherend is a protein or a polymer.

10. The method of claim 1, wherein said energy is conductively or
5 inductively applied.

11. The method of claim 1, wherein said energy is applied in pulses.

12. The method of claim 1, wherein said energy is radiofrequency energy,
10 radiant energy, or vibrational energy.

13. The method of claim 12, wherein said radiofrequency energy has a frequency of about 20 KHz to about 40 GHz.

14. The method of claim 1, wherein the energy generates an electromagnetic
15 field.

15. The method of claim 14, wherein said electromagnetic field is generated
via an antenna.

20 16. The method of claim 15, wherein said antenna comprises at least one coil of electrical conductor.

17. The method of claim 16, wherein said electrical conductor is a solid wire
25 or hollow tubing.

18. The method of claim 15, wherein said antenna is a single coil antenna, a double coil antenna or a solenoid antenna.

30 19. The method of claim 1, wherein fixing said substrate(s) forms a scaffold or a lattice structure within said substrate or between substrates.

20. The method of claim 1, wherein fixing said substrate(s) seals a tissue, fills a tissue defect, or bonds tissues together.

5. 21. The method of claim 1, further comprising:
controlling the fixing of said substrate(s) via feedback monitoring of a property of said susceptor, said energy or a combination thereof.

10 22. The method of claim 21, wherein said property is heat, an electrical property, eddy currents, conductivity, or frequency changes or a combination thereof.

23. The method of claim 22, wherein heat is monitored via optical detection.

15 24. The method of claim 23, wherein said optical detection is infrared.

25. A fusion composition to secure a substrate comprising:
a susceptor; and
an adherend.

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26. The fusion composition of claim 25, wherein said susceptor is a metal, a liposome encapsulating a metal, a dye, an ion or a mixture of ions, or an ultrasound contrast agent

25 27. The fusion composition of claim 25, wherein said susceptor comprises matter with non-zero electrical conductivity.

28. The fusion composition of claim 25, wherein said susceptor is diamagnetic, paramagnetic, or ferromagnetic.

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29. The fusion composition of claim 25, wherein said adherend is a protein or a polymer.

30. The fusion composition of claim 25, wherein said composition
5 comprises a surgical fastener, a laminate or a surgical fitting.

31. The fusion composition of claim 30, wherein said surgical fastener is a staple, a clip or a suture.

10 32. The fusion composition of claim 25, further comprising:
a heat-sensitive material.

33. The fusion composition of claim 32, wherein said heat-sensitive
material is a dye, a ferromagnetic material or a liposome.

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34. A device for fixing tissues, comprising:
a means to provide energy;
the fusion composition of claim 25;
an applicator comprising said fusion composition;
20 a means of applying said energy to said fusion composition; and
a means to control a property of said fusion composition or said energy or a
combination thereof.

35. The device of claim 34, wherein said energy is radiofrequency
25 energy, radiant energy, or vibrational energy.

36. The device of claim 35, wherein said radiofrequency energy has a frequency of about 20 KHz to about 40 GHz.

30 37. The device of claim 34, wherein said means of applying energy is inductive or conductive.

38. The device of claim 37, wherein said inductive means of applying energy is an antenna.

5 39. The device of claim 38, wherein said antenna comprises at least one coil of electrical conductor.

40. The device of claim 38, wherein said electrical conductor is a solid wire or hollow tubing.

10 41. The device of claim 38, wherein said antenna is a single coil antenna, a double coil antenna or a solenoid.

42. The device of claim 37, wherein said conductive means of applying
15 energy comprises an electrode, an electrode pair or an electrode array.

43. The device of claim 34, wherein said control means is self-limiting.

44. The device of claim 43, wherein said self-limiting control means is a
20 heat-sensitive dye, a liposome or a ferromagnetic material.

45. The device of claim 34, wherein said property is heat, an electrical property, eddy currents, conductivity, or frequency changes or a combination thereof.

25 46. The method of claim 45, wherein heat is monitored via optical detection.

47. The device of claim 46, wherein said optical detection is infrared.

30 48. A method of monitoring electrical conductivity in a biological sample, comprising:

inductively generating an electromagnetic field proximally to said sample to heat said sample;

monitoring eddy currents in said sample generated via the electromagnetic field; and

5 correlating eddy current density with electrical conductivity in said biological sample thereby monitoring said electrical conductivity.

49. The method of claim 48, wherein said biological sample is *in vivo* or *in vitro*.

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50. The method of claim 48, wherein said biological sample is a tissue, a fusion composition or a combination thereof.

51. The method of claim 48, wherein said biological sample comprises a
15 diagnostic assay.